

COLLISION AVOIDANCE SYSTEM (Reissue) Serial # 09/892,185 GAU 3661 Examiner Eric M. Gibson
Applicant Brett O. Hall 4206 Lazy Creek Dr. Marietta, GA 30066 770-517-6135; Responsive to 4/22/03 OA

IN THE CLAIMS

In light of the enclosed remarks, please consider the following amendments to claims 23-24, 1, 11, 14, 16, 17, 18, 20, 25, and 26. Also enclosed are new claims 27-32. The following editing symbols are used:

- { [] } { [Deletion of text that was in the original claim, allowed in the reissue claim but now deleted with this response] }
- { } { [Deletion of text that was inserted and allowed in a reissue claim but now deleted with this response] }
- Insertion of text within an allowed reissue claim that is new with this response
- [] [Deletions from the original claims]
- Insertions from the original claims

1. (Amended) A collision avoidance system for use involving at least one vehicle, said collision avoidance system comprising:

- El*
Cont.
- a) [a plurality of vehicle trigger sensors each] at least one trigger sensor associated with a roadway, [each said vehicle] said at least one trigger sensor capable of sensing at least one parameter [of] {associated with} { [one or more vehicles] };
- b) [a plurality of vehicle restrictors each] at least one vehicle restrictor associated with said roadway, [each said] said at least one restrictor comprising a [n elongate] member disposed generally transverse to said roadway, each said restrictor capable of being actuated [to raise or lower relative to said roadway surface] to impede passage thereover of said vehicles; and
- c) a controller programmed to determine { [the] } an increased likelihood of a collision [between] involving any of said vehicles based on said {vehicle} parameter{s} received from said trigger sensor{s}, programmed to determine [which of a selected one or more of said vehicles] at least one vehicle that should be slowed or stopped { [to avoid said collision] } based on said {vehicle} parameter{s} [and based on local traffic laws], and programmed to determine at least one selected vehicle restrictor that is being approached by said selected vehicle, wherein said at least one selected vehicle restrictor is actuated by communication from said controller to impede the passage of said selected vehicle { [to avoid said collision] }.

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11. (Amended) The collision avoidance system of claim 1, further comprising:

- E 2
- a) [a plurality of] at least one pedestrian trigger sensor[s each] associated with said roadway, each said pedestrian trigger sensor capable of sensing at least one parameter of one or more pedestrians; and
 - b) [at least one alarm associated with said roadway to alert operators of said vehicles of an approaching pedestrian to avoid collision; and]
 - c) said controller programmed to determine { [the] } an increased likelihood of a collision between said pedestrian and [any of said vehicles, and to select and activate said alarm] said selected vehicle and to select and activate said selected vehicle restrictor [immediately] in the path of said selected vehicle.

14. (Amended) The collision avoidance system of claim 1, further comprising:

- E 3
Cont
- a) [a plurality of] at least one train trigger sensor[s each] associated with said roadway, each said train trigger sensor capable of sensing at least one parameter of one or more trains; and
 - b) [a plurality of alarms associated with said roadway to alert operators of said vehicles of an approaching train to avoid collision; and]
 - c) said controller programmed to determine { [the] } an increased likelihood of a collision between said train and [any of said vehicles, and to select and activate said alarm] said selected vehicle and to select and activate said selected vehicle restrictor [immediately] in the path of said selected vehicle.

16. (Amended) A method for collision avoidance for use involving at least one vehicle.

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comprising the steps of:

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cont.
- a) sensing at least one parameter[s] { [of] } [a plurality of vehicles] {at least one vehicle};
 - b) determining { [the] } that there is an increased likelihood of a collision involving [any of said vehicles] {said} the at least one {sensed} vehicle based on said at least one { [vehicle] } parameter[s];
 - c) determining [which of a selected one or more of said vehicles] at least one vehicle that should be slowed or stopped { [to avoid said collision] } based on said at least one { [vehicle] } parameter[s] and local traffic laws;
 - d) determining at least one selected vehicle restrictor[, of a plurality of vehicle restrictors] in a roadway, that is being approached by { [said selected] } the vehicle based on said at least one { [vehicle] } parameter[s] and said vehicle restrictor location[s]; and
 - e) actuating said selected vehicle restrictor to control [the parameters of] said { [selected] } vehicle { [to avoid said collision] }.

17. (Amended) The collision avoidance method of claim 16, wherein said at least one { [vehicle] } parameter[s] comprises the presence, position, speed, or direction of the { [sensed] } vehicle.

18. (Amended) The collision avoidance method of claim 16, further comprising the steps of:

- a) sensing at least one parameter[s] of at least one pedestrian;
- b) determining { [the] } that there is an increased likelihood of a collision b twn said at least one pedestrian and any of said vehicl s based on said at least one

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parameter; and

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- c) [actuating at least one alarm to alert an operator of said vehicle of said approaching vehicle to avoid such a collision.]
 - d) actuating at least one vehicle restrictor in a roadway to control said vehicle to be slowed or stopped to {avoid said} reduce the increased likelihood of a collision with at least one pedestrian.

20. (Amended) The collision avoidance method of claim 16, further comprising the steps of:

- E5
- a) sensing at least one parameter[s] of at least one train;
 - b) determining { [the] } that there is an increased likelihood of a collision between said at least one train and any of said vehicles based on said at least one parameter; and
 - c) actuating at least one vehicle restrictor[s] in a roadway to control [the parameters of] said vehicle to be slowed or stopped to { [avoid said] } reduce the increased likelihood of a collision with at least one train. [; and]
 - d) [actuating at least one alarm to alert an operator of said vehicle of said approaching train to avoid such a collision.]

Add as new claim 23

E6
Cont.

23. A collision avoidance system for enforcing local traffic laws or rules for use with a traffic control means that is representative of the local traffic laws or rules, capable of displaying a permissive or a non-permissive indicia, said system of collision avoidance, comprising:

- a) at least one vehicle restrictor associated with said roadway, said at least one vehicle restrictor comprising a member disposed generally transverse to said roadway, capable of being actuated to impede passage thereof of at least one vehicle; and

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b) a controller that determines an increased likelihood of vehicular collision relative to the status of the traffic control means wherein said controller determines at least one vehicle that should be slowed or stopped and wherein said at least one vehicle restrictor may be actuated by communication from said controller to impede the passage of at least one vehicle.

Add as new claim 24

24. A method of collision avoidance for enforcing local traffic laws or rules for use with a traffic control means that is representative of the local traffic laws or rules, capable of displaying permissive or non-permissive indicia, said method of collision avoidance comprising the steps of:

- Ex Cont.*
- Ex Cont.*
- a) determining the permissive status of the traffic control means that is associated with a roadway;
 - b) determining at least one vehicle that should be slowed or stopped as to reduce the increased likelihood of vehicular collision relative to local traffic laws or rules and status of the traffic control means; and
 - c) impeding movement of said at least one vehicle associated with the roadway by actuating at least one vehicle restrictor when the status of the traffic control means is not permissive.

25. (Amended) A method of collision avoidance, comprising the steps of:

- a) sensing at least one parameter of at least a first vehicle;
- b) sensing at least one parameter of at least a second vehicle;
- c) determining (the) that there is an increased likelihood of a collision involving said at least first vehicle and said at least second vehicle based on said vehicle parameters; and
- d) determining at least one vehicle that should be slowed or stopped; and
- e) actuating at least one vehicle restrictor to impede the movement of at least one of said vehicles {to avoid said collision}.

26. (Amended) A method of collision avoidance, comprising the steps of:

- a) sensing at least one parameter of at least one vehicle;
- b) sensing at least one parameter of at least one pedestrian or at least one train;

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- Ex
could
Ex*
- c) determining (the) that there is an increased likelihood of a collision involving said at least one vehicle with said at least one pedestrian or said at least one train based on said at least one vehicle parameter and said at least one pedestrian or train parameter;
- d) determining at least one vehicle that should be slowed or stopped; and
- e) actuating at least one vehicle restrictor to impede the movement of at least one said vehicle (to avoid said collision).

Add as new claim 27

27. The collision avoidance system of Claim 1, wherein said parameter is associated with one or more vehicles.

Add as new claim 28

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cont.*

28. The collision avoidance system of claim 1, wherein said at least one trigger sensor is a traffic control means selected from the group comprising traffic light, caution indicator, school bus indicator, bi-directional light, alphanumeric display, pedestrian crosswalk indicator, train signal, traffic sign, traffic gate, traffic barrier or combinations thereof.

Add as new claim 29

29. The collision avoidance system of Claim 28, wherein said parameter is associated with said traffic control means.

Add as new claim 30

*as
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30. The method for collision avoidance of claim 16, wherein said parameters is associated with one or more vehicles.

Add as new claim 31

31. The method for collision avoidance of claim 16, wherein said parameter is associated with a traffic control means.

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Add as new claim 32

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32. The method for collision avoidance of claim 31, wherein said traffic control means is
selected from the group comprising traffic light, caution indicator, school bus indicator, bi-
directional light, alphanumeric display, pedestrian crosswalk indicator, train signal, traffic sign,
traffic gate, traffic barrier or combinations thereof.
